



## SEQUENCE LISTING

<110> Howard, Andrew D.  
O'Neill, Gary P.  
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George, Susan

<120> G PROTEIN-COUPLED RECEPTOR  
RESEMBLING-GALANIN RECEPTORS

<130> 20397P

<140> 09/914,106

<141> 2001-08-23

<150> PCT/US00/04416

<151> 2000-02-22

<150> 60/121,651

<151> 1999-02-24

<160> 12

<170> FastSEQ for Windows Version 4.0

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<212> DNA

<213> Homo Sapiens

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atccagcagg	tctcggtgca	ggccacgtgt	gccactctga	ccgccatgag	tgtggaccgc	420
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<212> DNA

<213> Rattus Rattus

<400> 2

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&lt;210&gt; 3

&lt;211&gt; 398

&lt;212&gt; PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 3

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Pro Val Pro Ser Pro Arg Ala Val Asp Ala Trp Leu Val Pro Leu Phe
35 40 45
Phe Ala Ala Leu Met Leu Leu Gly Leu Val Gly Asn Ser Leu Val Ile
50 55 60
Tyr Val Ile Cys Arg His Lys Pro Met Arg Thr Val Thr Asn Phe Tyr
65 70 75 80
Ile Ala Asn Leu Ala Ala Thr Asp Val Thr Phe Leu Leu Cys Cys Val
85 90 95
Pro Phe Thr Ala Leu Leu Tyr Pro Leu Pro Gly Trp Val Leu Gly Asp
100 105 110
Phe Met Cys Lys Phe Val Asn Tyr Ile Gln Gln Val Ser Val Gln Ala
115 120 125
Thr Cys Ala Thr Leu Thr Ala Met Ser Val Asp Arg Trp Tyr Val Thr
130 135 140
Val Phe Pro Leu Arg Ala Leu His Arg Arg Thr Pro Arg Leu Ala Leu
145 150 155 160
Ala Val Ser Leu Ser Ile Trp Val Gly Ser Ala Ala Val Ser Ala Pro
165 170 175
Val Leu Ala Leu His Arg Leu Ser Pro Gly Pro Arg Ala Tyr Cys Ser
180 185 190
Glu Ala Phe Pro Ser Arg Ala Leu Glu Arg Ala Phe Ala Leu Tyr Asn
195 200 205
Leu Leu Ala Leu Tyr Leu Leu Pro Leu Leu Ala Thr Cys Ala Cys Tyr
210 215 220
Ala Ala Met Leu Arg His Leu Gly Arg Val Ala Val Arg Pro Ala Pro
225 230 235 240
Ala Asp Ser Ala Leu Gln Gly Gln Val Leu Ala Glu Arg Ala Gly Ala
245 250 255
Val Arg Ala Lys Val Ser Arg Leu Val Ala Ala Val Val Leu Leu Phe
260 265 270
Ala Ala Cys Trp Gly Pro Ile Gln Leu Phe Leu Val Leu Gln Ala Leu
275 280 285
Gly Pro Ala Gly Ser Trp His Pro Arg Ser Tyr Ala Ala Tyr Ala Leu

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290		295		300
Lys Thr Trp Ala His Cys Met Ser Tyr Ser Asn Ser Ala Leu Asn Pro				
305		310		315
Leu Leu Tyr Ala Phe Leu Gly Ser His Phe Arg Gln Ala Phe Arg Arg				
	325		330	
Val Cys Pro Cys Ala Pro Arg Arg Pro Arg Arg Pro Arg Arg Pro Gly				
	340		345	
Pro Ser Asp Pro Ala Ala Pro His Ala Glu Leu Leu Arg Leu Gly Ser				
	355		360	
His Pro Ala Pro Ala Arg Ala Gln Lys Pro Gly Ser Ser Gly Leu Ala				
	370		375	
Ala Arg Gly Leu Cys Val Leu Gly Glu Asp Asn Ala Pro Leu				
385		390		395

&lt;210&gt; 4

&lt;211&gt; 395

&lt;212&gt; PRT

&lt;213&gt; Rattus Rattus

&lt;400&gt; 4

Met Ala Ala Glu Ala Thr Leu Gly Pro Asn Val Ser Trp Trp Ala Pro				
1	5		10	15
Ser Asn Ala Ser Gly Cys Pro Gly Cys Gly Val Asn Ala Ser Asp Gly				
	20		25	30
Pro Gly Ser Ala Pro Arg Pro Leu Asp Ala Trp Leu Val Pro Leu Phe				
	35		40	45
Phe Ala Ala Leu Met Leu Leu Gly Leu Val Gly Asn Ser Leu Val Ile				
	50		55	60
Phe Val Ile Cys Arg His Lys His Met Gln Thr Val Thr Asn Phe Tyr				
	65		70	75
Ile Ala Asn Leu Ala Ala Thr Asp Val Thr Phe Leu Leu Cys Cys Val				
	85		90	95
Pro Phe Thr Ala Leu Leu Tyr Pro Leu Pro Thr Trp Val Leu Gly Asp				
	100		105	110
Phe Met Cys Lys Phe Val Asn Tyr Ile Gln Gln Val Ser Val Gln Ala				
	115		120	125
Thr Cys Ala Thr Leu Thr Ala Met Ser Val Asp Arg Trp Tyr Val Thr				
	130		135	140
Val Phe Pro Leu Arg Ala Leu His Arg Arg Thr Pro Arg Leu Ala Leu				
	145		150	155
Thr Val Ser Leu Ser Ile Trp Val Gly Ser Ala Ala Val Ser Ala Pro				
	165		170	175
Val Leu Ala Leu His Arg Leu Ser Pro Gly Pro His Thr Tyr Cys Ser				
	180		185	190
Glu Ala Phe Pro Ser Arg Ala Leu Glu Arg Ala Phe Ala Leu Tyr Asn				
	195		200	205
Leu Leu Ala Leu Tyr Leu Leu Pro Leu Leu Ala Thr Cys Ala Cys Tyr				
	210		215	220
Gly Ala Met Leu Arg His Leu Gly Arg Ala Ala Val Arg Pro Ala Pro				
	225		230	235
Thr Asp Gly Ala Leu Gln Gly Gln Leu Leu Ala Gln Arg Ala Gly Ala				
	245		250	255
Val Arg Thr Lys Val Ser Arg Leu Val Ala Ala Val Val Leu Leu Phe				
	260		265	270
Ala Ala Cys Trp Gly Pro Ile Gln Leu Phe Leu Val Leu Gln Ala Leu				
	275		280	285
Pro Leu Gly Gly Leu Ala Pro Ser Lys Leu Cys Ala Tyr Ala Leu Lys				
	290		295	300
Ile Trp Ala His Cys Met Ser Tyr Ser Asn Ser Ala Leu Asn Pro Leu				
	305		310	315
Leu Tyr Ala Phe Leu Gly Ser His Phe Arg Gln Ala Phe Cys Arg Val				
	325		330	335

Cys Pro Cys Gly Pro Gln Arg Gln Arg Arg Pro His Ala Ser Ala His  
                   340                                  345                  350  
 Ser Asp Arg Ala Ala Pro His Ser Val Pro His Ser Arg Ala Ala His  
                   355                                  360                  365  
 Pro Val Arg Val Arg Thr Pro Glu Pro Gly Asn Pro Val Val His Ser  
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 Pro Ser Val Gln Asp Glu His Thr Ala Pro Leu  
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 <212> PRT  
 <213> Rattus Rattus

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                   20                                  25                  30  
 Phe Ile Thr Leu Val Val Phe Gly Leu Ile Phe Ala Met Gly Val Leu  
                   35                                  40                  45  
 Gly Asn Ser Leu Val Ile Thr Val Leu Ala Pro Ser Lys Pro Gly Lys  
                   50                                  55                  60  
 Pro Arg Ser Thr Thr Asn Leu Phe Ile Leu Asn Leu Ser Ile Ala Asp  
 65                                  70                  75                  80  
 Leu Ala Tyr Leu Leu Phe Cys Ile Phe Phe Gln Ala Thr Val Tyr Ala  
                   85                                  90                  95  
 Leu Pro Thr Trp Val Leu Gly Ala Phe Ile Cys Lys Phe Ile His Tyr  
                   100                                  105                  110  
 Phe Phe Thr Val Ser Met Leu Val Ser Ile Phe Thr Leu Ala Ala Met  
                   115                                  120                  125  
 Ser Val Asp Arg Tyr Val Ala Ile Val His Ser Arg Arg Ser Ser Ser  
                   130                                  135                  140  
 Leu Arg Val Ser Arg Asn Ala Leu Leu Gly Val Gly Phe Ile Trp Ala  
 145                                  150                  155                  160  
 Leu Ser Ile Ala Met Ala Ser Pro Val Ala Tyr Tyr Gln Arg Leu Phe  
                   165                                  170                  175  
 His Arg Asp Ser Asn Gln Thr Phe Cys Trp Glu His Trp Pro Asn Gln  
                   180                                  185                  190  
 Leu His Lys Lys Ala Tyr Val Val Cys Thr Phe Val Phe Gly Tyr Leu  
                   195                                  200                  205  
 Leu Pro Leu Leu Leu Ile Cys Phe Cys Tyr Ala Lys Val Leu Asn His  
                   210                                  215                  220  
 Leu His Lys Lys Leu Lys Asn Met Ser Lys Lys Ser Glu Ala Ser Lys  
 225                                  230                  235                  240  
 Lys Lys Thr Ala Gln Thr Val Leu Val Val Val Val Phe Gly Ile  
                   245                                  250                  255  
 Ser Trp Leu Pro His His Val Ile His Leu Trp Ala Glu Phe Gly Ala  
                   260                                  265                  270  
 Phe Pro Leu Thr Pro Ala Ser Phe Phe Phe Arg Ile Thr Ala His Cys  
                   275                                  280                  285  
 Leu Ala Tyr Ser Asn Ser Ser Val Asn Pro Ile Ile Tyr Ala Phe Leu  
                   290                                  295                  300  
 Ser Glu Asn Phe Arg Lys Ala Tyr Lys Gln Val Phe Lys Cys Arg Val  
 305                                  310                  315                  320  
 Cys Asn Glu Ser Pro His Gly Asp Ala Lys Glu Lys Asn Arg Ile Asp  
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 Thr Pro Pro Ser Thr Asn Cys Thr His Val  
                   340                                  345

<210> 6  
 <211> 372

&lt;212&gt; PRT

&lt;213&gt; Rattus Rattus

&lt;400&gt; 6

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Gly Ser Gly Gly Trp Gln Pro Glu Ala Val Leu Val Pro Leu Phe Phe
 20      25      30
Ala Leu Ile Phe Leu Val Gly Thr Val Gly Asn Ala Leu Val Leu Ala
 35      40      45
Val Leu Leu Pro Gly Gly Gln Ala Val Ser Thr Thr Asn Leu Phe Ile
 50      55      60
Leu Asn Leu Gly Val Ala Asp Leu Cys Phe Ile Leu Cys Cys Val Phe
 65      70      75      80
Phe Gln Ala Thr Ile Tyr Thr Leu Asp Asp Trp Tyr Phe Gly Ser Leu
 85      90      95
Leu Cys Lys Ala Val His Phe Leu Ile Phe Leu Thr Met His Ala Ser
 100     105     110
Ser Phe Thr Leu Ala Ala Val Ser Leu Asp Arg Tyr Leu Ala Ile Arg
 115     120     125
Tyr Pro Leu His Ser Arg Glu Leu Arg Ile Pro Arg Asn Ala Leu Ala
 130     135     140
Ala Ile Gly Leu Ile Trp Gly Leu Ala Leu Leu Phe Ser Gly Pro Tyr
 145     150     155     160
Ile Ser Tyr Tyr Arg Gln Ser Gln Leu Ala Asn Leu Thr Val Cys His
 165     170     175
Pro Ala Trp Ser Ala Pro Arg Arg Arg Ala Met Asp Leu Cys Thr Phe
 180     185     190
Val Phe Ser Tyr Leu Leu Pro Val Leu Val Leu Ser Leu Thr Tyr Ala
 195     200     205
Arg Thr Leu Arg Tyr Leu Trp Arg Thr Val Asp Phe Val Thr Ala Gly
 210     215     220
Ser Gly Ser Gln Arg Ala Lys Arg Lys Val Thr Pro Met Ile Ile Ile
 225     230     235     240
Val Ala Val Leu Phe Cys Leu Cys Trp Met Pro His His Ala Leu Ile
 245     250     255
Leu Cys Val Trp Phe Gly Arg Phe Pro Leu Thr Arg Ala Thr Tyr Ala
 260     265     270
Leu Arg Ile Leu Ser His Leu Val Ser Tyr Ala Asn Ser Cys Val Asn
 275     280     285
Pro Ile Val Tyr Ala Leu Val Ser Lys His Phe Arg Lys Gly Phe Arg
 290     295     300
Lys Ile Cys Ala Gly Leu Leu Arg Pro Ala Pro Arg Arg Ala Ser Gly
 305     310     315     320
Arg Val Ser Ile Leu Ala Pro Gly Asn His Ser Gly Ser Met Leu Glu
 325     330     335
Gln Glu Ser Thr Asp Leu Thr Gln Val Ser Glu Ala Ala Gly Pro Leu
 340     345     350
Val Pro Pro Pro Ala Leu Pro Asn Cys Thr Ala Ser Ser Arg Thr Leu
 355     360     365
Asp Pro Ala Cys
 370

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&lt;210&gt; 7

&lt;211&gt; 370

&lt;212&gt; PRT

&lt;213&gt; Rattus Rattus

&lt;400&gt; 7

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Met Ala Asp Ile Gln Asn Ile Ser Leu Asp Ser Phe Gly Ser Val Gly
 1      5      10      15
Ala Val Ala Val Pro Val Ile Phe Ala Leu Ile Phe Leu Leu Gly Met

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Ala	Trp	Gln	Glu	Pro	Arg	Ser	Thr	Thr	Asp	Leu	Phe	Ile	Leu	Asn	Leu		
	50					55					60						
Ala	Val	Ala	Asp	Leu	Cys	Phe	Ile	Leu	Cys	Cys	Val	Phe	Phe	Gln	Ala		
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Ala	Ile	Tyr	Thr	Leu	Asp	Ala	Trp	Leu	Phe	Gly	Ala	Phe	Val	Cys	Lys		
			85						90					95			
Thr	Val	His	Leu	Leu	Ile	Tyr	Leu	Thr	Met	Tyr	Ala	Ser	Ser	Phe	Thr		
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Leu	Ala	Ala	Val	Ser	Leu	Asp	Arg	Tyr	Leu	Ala	Val	Arg	His	Gln	Leu		
	115						120					125					
Arg	Ser	Arg	Ala	Leu	Arg	Ile	Pro	Pro	Asn	Ala	Arg	Ala	Ala	Val	Gly		
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Leu	Val	Trp	Leu	Leu	Ala	Ala	Leu	Phe	Ser	Ala	Pro	Tyr	Leu	Ser	Tyr		
145				150					155					160			
Tyr	Gly	Thr	Val	Arg	Tyr	Gly	Ala	Leu	Glu	Leu	Cys	Val	Pro	Ala	Trp		
			165						170					175			
Glu	Asp	Ala	Arg	Arg	Pro	Arg	Leu	Asp	Val	Ala	Thr	Phe	Ala	Ala	Gly		
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Tyr	Leu	Leu	Pro	Val	Ala	Val	Val	Ser	Leu	Ala	Tyr	Gly	Arg	Thr	Leu		
	195						200					205					
Cys	Phe	Leu	Trp	Ala	Ala	Val	Gly	Pro	Ala	Gly	Ala	Ala	Ala	Ala	Glu		
	210					215					220						
Ala	Arg	Pro	Arg	Ala	Thr	Gly	Phe	Ala	Gly	Pro	Ala	Met	Leu	Ala	Val		
225				230					235						240		
Ala	Ala	Leu	Tyr	Ala	Leu	Cys	Trp	Gly	Pro	His	His	Ala	Leu	Ile	Leu		
				245					250					255			
Cys	Phe	Trp	Tyr	Gly	Arg	Phe	Ala	Phe	Ser	Pro	Ala	Thr	Tyr	Ala	Cys		
		260						265					270				
Arg	Leu	Ala	Ser	His	Gly	Leu	Ala	Tyr	Ala	Asn	Ser	Cys	Leu	Asn	Pro		
	275						280					285					
Leu	Val	Val	Ser	Leu	Ala	Ser	Arg	His	Phe	Arg	Ala	Arg	Phe	Arg	Arg		
	290					295					300						
Leu	Trp	Pro	Cys	Gly	Arg	Cys	Arg	His	Arg	His	His	His	Arg	Ala	His		
305				310					315					320			
Arg	Ala	Leu	Arg	Val	Cys	Pro	Ala	Ser	Ser	Gly	Pro	Ala	Gly	Tyr			
			325					330					335				
Pro	Gly	Asp	Ala	Pro	Pro	Arg	Gly	Trp	Ser	Met	Glu	Pro	Arg	Gly	Asp		
		340						345					350				
Ala	Leu	Arg	Gly	Gly	Gly	Glu	Thr	Arg	Leu	Thr	Leu	Ser	Pro	Arg	Gly		
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Pro	Gln																
	370																

&lt;210&gt; 8

&lt;211&gt; 372

&lt;212&gt; PRT

&lt;213&gt; Rattus Rattus

&lt;400&gt; 8

Met	Glu	Pro	Val	Pro	Ser	Ala	Arg	Ala	Glu	Leu	Gln	Phe	Ser	Leu	Leu		
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		20						25				30					
Asn	Ala	Ser	Gly	Ser	Pro	Gly	Ala	Arg	Ser	Ala	Ser	Ser	Leu	Ala	Leu		
	35					40					45						
Ala	Ile	Ala	Ile	Thr	Ala	Leu	Tyr	Ser	Ala	Val	Cys	Ala	Val	Gly	Leu		
	50					55					60						
Leu	Gly	Asn	Val	Leu	Val	Met	Phe	Gly	Ile	Val	Pro	Tyr	Thr	Lys	Leu		
65				70					75						80		

Lys Thr Ala Thr Asn Ile Tyr Ile Phe Asn Leu Ala Leu Ala Asp Ala  
 85 90 95  
 Leu Ala Thr Ser Thr Leu Phe Phe Gln Ser Ala Lys Tyr Leu Met Glu  
 100 105 110  
 Thr Trp Pro Phe Gly Glu Leu Leu Cys Lys Ala Val Leu Ser Ile Asp  
 115 120 125  
 Tyr Tyr Asn Met Phe Thr Ser Ile Phe Thr Leu Thr Met Met Ser Val  
 130 135 140  
 Asp Arg Tyr Ile Ala Val Cys His Pro Val Lys Ala Leu Asp Phe Arg  
 145 150 155 160  
 Thr Pro Ala Lys Ala Lys Leu Ile Asn Ile Cys Ile Trp Val Leu Ala  
 165 170 175  
 Ser Gly Val Gly Val Pro Ile Met Val Met Ala Val Thr Gln Pro Arg  
 180 185 190  
 Asp Gly Ala Val Val Cys Thr Leu Gln Phe Pro Ser Pro Ser Trp Tyr  
 195 200 205  
 Trp Asp Thr Val Thr Lys Ile Cys Val Phe Leu Phe Ala Phe Val Val  
 210 215 220  
 Pro Ile Leu Ile Ile Thr Val Cys Tyr Cys Leu Met Leu Leu Arg Leu  
 225 230 235 240  
 Arg Ser Val Pro Leu Leu Ser Gly Ser Lys Glu Lys Asp Arg Ser Leu  
 245 250 255  
 Arg Arg Ile Thr Pro Met Val Leu Val Val Val Gly Ala Phe Val Val  
 260 265 270  
 Cys Trp Ala Pro Ile His Ile Phe Val Ile Val Trp Thr Leu Val Asp  
 275 280 285  
 Ile Asn Arg Arg Asp Pro Leu Val Val Ala Ala Leu His Leu Cys Ile  
 290 295 300  
 Ala Leu Gly Tyr Ala Asn Ser Ser Leu Asn Pro Val Leu Tyr Ala Phe  
 305 310 315 320  
 Leu Asp Glu Asn Phe Lys Arg Cys Phe Arg Gln Leu Cys Arg Ala Pro  
 325 330 335  
 Cys Gly Gly Cys Glu Pro Gly Ser Leu Arg Arg Pro Arg Gln Ala Thr  
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 Ala Arg Glu Arg Val Thr Ala Cys Thr Pro Ser Asp Gly Pro Gly Gly  
 355 360 365  
 Gly Ala Ala Ala  
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 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

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 <223> PCR Primer

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24

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 <212> DNA  
 <213> Artificial Sequence

<220>  
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<400> 10  
 gaaggcgtag asaggrtt

18

<210> 11

<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> PCR Primer

<400> 11  
atgcacaccg tggctacgtc c 21

<210> 12  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> PCR Primer

<400> 12  
tcagagaggg gcgttgcct c 21